



9110-04-P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

Docket No. USCG-2015-0960

Coast Guard Acceptance of Sewage Treatment Plants for Type-Approval to International Maritime Organization resolution MEPC.227(64)

AGENCY: Coast Guard, DHS.

ACTION: Notice of Policy and request for comments.

SUMMARY: The Coast Guard announces its acceptance of sewage treatment plants (also referred to as marine sanitation devices) for type-approval to International Maritime Organization resolution MEPC.227(64) as meeting the requirements for marine sanitation devices. This action will allow manufacturers as well as shipowners and operators the option to take advantage of building and using equipment that meets both domestic and international requirements while also benefitting the environment. The Coast Guard is also seeking information on simple on board checks to verify performance of sewage treatment plants.

DATES: Comments and related material must be received by the Coast Guard on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

You may submit comments identified by docket number USCG-2015-0880 using the

Federal eRulemaking Portal at <http://www.regulations.gov>. See the “Public Participation and Request for Comments” portion of the SUPPLEMENTARY INFORMATION section for further instructions on submitting comments.

FOR FURTHER INFORMATION CONTACT: For information about this document call or e-mail Wayne M. Lundy, CG-ENG-3, U.S. Coast Guard; telephone 202-372-1379, e-mail Wayne.M.Lundy@uscg.mil.

SUPPLEMENTARY INFORMATION:

Public Participation and Comments

If you submit a comment, please include the docket number for this notice, indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation.

We encourage you to submit comments through the Federal eRulemaking Portal at <http://www.regulations.gov>. If your material cannot be submitted using <http://www.regulations.gov>, contact the person in the FOR FURTHER INFORMATION CONTACT section of this document for alternate instructions.

We accept anonymous comments. All comments received will be posted without change to <http://www.regulations.gov> and will include any personal information you have provided. For more about privacy and the docket, you may review a Privacy Act notice regarding the Federal Docket Management System in the March 24, 2005, issue of the Federal Register (70 FR 15086).

Documents mentioned in this notice as being available in the docket, and all public comments, will be in our online docket at <http://www.regulations.gov> and can be viewed by following that website’s instructions. Additionally, if you go to the online

docket and sign up for email alerts, you will be notified when comments are posted.

We are also planning to hold a two-day public workshop in Washington D.C. in the fall of 2015. We will issue a separate Federal Register notice to announce the date, time, and location of such a workshop. The purpose of the workshop will be to discuss sewage treatment technologies, issues concerning testing of marine sanitation devices for type approval and information on simple on board checks to verify performance of a marine sanitation device. The workshop will also consider issues associated with existing federal standards and MARPOL Annex IV equipment standards (resolution MEPC.227(64)), impact of No Discharge Zones, and issues concerning gray water.

Background and Purpose

Title 33 of the Code of Federal Regulations (CFR), part 159, prescribes requirements for the design and construction of marine sanitation devices (“MSDs”, also referred to as sewage treatment plants) and procedures for certifying that MSDs meet the regulations and standards of the Environmental Protection Agency promulgated under Section 312 of the Federal Water Pollution Control Act (Pub. L. 92-500, § 312, 86 Stat. 871 (October 18, 1972), *as amended; classified to* 33 U.S.C. § 1322). In October 2012, the International Maritime Organization (IMO) adopted resolution MEPC.227(64) - *2012 Guidelines on implementation of effluent standards and performance tests for sewage treatment plants*. The International Convention on the Prevention of Pollution from Ships 73/78 (MARPOL) Annex IV requires sewage treatment plants to be type-approved taking into account the standards of IMO Resolution MEPC.227(64). While the United States is not a Contracting Government to MARPOL Annex IV, we recognize that the limits and standards in IMO resolution MEPC.227(64) are more stringent or prescriptive

than those requirements in 33 CFR 159 concerning threshold limits and testing of equipment and thus equipment that is type-approved to the MEPC.227(64) standards would also satisfy U.S. threshold effluent limits. Specifically, we have determined that a MSD meeting the design specifications in MEPC.227(64) would exceed the performance specifications for Type II tanks, as listed in 33 CFR 159.53(b), which states that, “[u]nder the test conditions described in §§159.126 and 159.126a, [the tanks must] produce an effluent having a fecal coliform bacteria count not greater than 200 per 100 milliliters and suspended solids not greater than 150 milligrams per liter.”

In recognition of this, the Coast Guard believes MSDs type-approved in accordance with the requirements of IMO resolution MEPC.227(64) and installed on U.S. flagged ships comply with those threshold effluent limits in 33 CFR 159.53(b). MSDs must still meet the other requirements contained in part 159, and any inconsistencies between part 159 and MEPC.227(64) must be resolved in favor of part 159. Manufacturers may submit their equipment to a recognized testing facility recognized by the Coast Guard for testing of such equipment and may make a submission to the Coast Guard requesting type approval.

Resolution MEPC.227(64) also contains a process allowing the Coast Guard to certify that a type-approved MSD meets the specific effluent discharge requirements for a vessel to enter Special Areas listed in MARPOL Annex IV. The Coast Guard would certify that the MSD meets the enhanced effluent discharge and treatment specifications listed in MEPC.227(64). Under MARPOL Annex IV Regulations 9.1.1 and 9.1.2, vessels with MSDs conforming to the Special Area specifications contained in

MEPC.227(64) may be permitted to operate in Special Areas. This certification would allow U.S.-flagged vessels to document that they meet those standards.

However, U.S.-flagged vessels voluntarily installing MSDs in accordance with MARPOL Annex IV standards must comply with the U.S. application of MEPC.227(64), as follows, to receive U.S. certification. Currently, MEPC.227(64), is vague on the amount of reduction required for thermotolerant coliform (TC), total suspended solids (TSS), biochemical oxygen demand without nitrification (BOD₅) and chemical oxygen demand (COD). While Section 3 of MEPC.227(64) states that “[i]n meeting the effluent standards in Section 4, an approved sewage treatment plant should not rely solely on dilution of wastewater,” there are no specific levels of reduction given for TC, TSS, BOD₅ and COD (unlike the specific Percent Reductions given for discharges of nitrogen and phosphorus in Section 4.2).

IMO Resolution MEPC.227(64) states that an approved MSD not rely solely on dilution of wastewater in order to meet the effluent limits stipulated in resolution MEPC.227(64). Resolution MEPC.227(64) further states that, where amounts of dilution are deemed essential to a treatment process, the effluent standards in Section 4 should be adjusted proportionally using dilution compensation factor Q_i/Q_e to account for dilution Q_d ¹. In order to demonstrate that the MSD does not rely solely on dilution of wastewater in order to meet the effluent standards, the effluent concentration value C_e for any particular analyte addressed in resolution MEPC.227(64), Section 4.1 (specifically, TC,

¹ Dilution (Q_d) – is dilution water, grey water, process water, and/or seawater introduced to the sewage treatment plant after the influent sample point and after the influent flow measurement device, see figure 1 of resolution MEPC.227(64).

Effluent (Q_e) – is treated wastewater produced by the sewage treatment plant, see figure 1 of resolution MEPC.227(64).

Influent (Q_i) – is liquid containing sewage, grey water or other liquid streams, to be processed by the treatment plant, see figure 1 of resolution MEPC.227(64).

TSS, BOD₅ and COD) will need to be less than the effluent standard for that analyte multiplied by the dilution compensation factor Q_i/Q_e .

In order for a MSD to be able to be technically evaluated for type approval under MEPC.227(64), the concentration value of the effluent for that analyte being considered must be readable, i.e., at or above the detection limit for the test method for that analyte. For consideration by the Coast Guard, a MSD, after application of the dilution compensation factor Q_i/Q_e , the revised effluent concentration value of any analyte measured at the Effluent Sample Point as shown in figure 1 of this Notice of Policy cannot be below the Test Method detection limit for that analyte. Figure 1 is replicated from resolution MEPC.227(64). If the revised concentration value is below the Test Method detection limit for that analyte, then it becomes impossible for the concentration value to be physically measured.

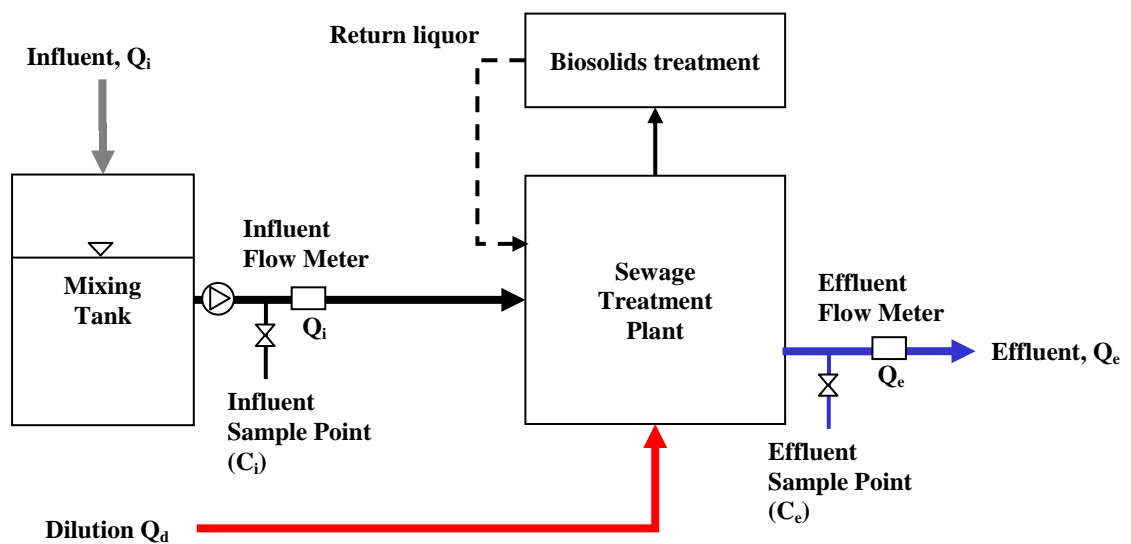


Figure 1: System diagram of a sewage treatment plant

To make the above determination for Annex IV certification, the Coast Guard will use the approved test methods that are listed in the Environmental Protection Agency regulations (40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants). The following methods must be used:

- Thermotolerant Coliform (TC) Test Method EPA 600/8-78-017 Chapter III² (Detection Limit = 1 colony form unit (CFU)/100 mL),
- Total Suspended Solids (TSS) Test Method 160.2 (Detection Limit = 4.0 mg/L),
- Biochemical Oxygen Demand (BOD₅) without nitrification³ Test Method 5210 B³ (Detection Limit = 2.0 mg/L),
- Chemical Oxygen Demand (COD) Test Method 410.4 (Detection Limit = 3.0 mg/L),
- pH Test Method 150.1 (none stated but not normally reported below 0.01)⁴,
- Total Nitrogen⁵ 351.2 (Detection Limit = 0.5 mg/L),

² Please refer to Page Number 124 in document USEPA. 1978. Microbiological Methods for Monitoring the Environment, Water, and Wastes. Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, Cincinnati, Ohio. EPA/600/8-78/017; weblink : <http://nepis.epa.gov/Exe/ZyNET.exe/300014TD.txt?ZyActionD=ZyDocument&Client=EPA&Index=1976%20Thru%201980&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C76THRU80%5CTXT%5C0000000%5C300014TD.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1>

³ The equivalent US EPA Test Method for Biochemical Oxygen Demand (BOD₅) without nitrification is done as carbonaceous biochemical oxygen demand (CBOD₅) and should not be confused with the traditional BOD₅ test method which measures “total BOD”. The addition of the nitrification inhibitor is not a procedural option, but must be included to report the CBOD₅ parameter.

⁴ There is no US EPA Test Method listed in 40 C.F.R. 136 so the US EPA has adopted American Public Health Association (APHA) Standard Methods for the Examination of Water and Wastewater. The current edition is the 22nd edition.

Total Phosphorus Test Method 365.2 (Detection Limit = 0.01 mg/L) and
Disinfectant residual

- Chlorine Test Method 330.5 (Detection Limit = 0.2 mg/L)

The Coast Guard is also seeking information on possible simple on board checks that may be available and easily used to verify performance of a sewage treatment plant with effluent requirements.

This notice is issued under authority of 5 U.S.C. 552(a).

Dated: October 9, 2015

F. J. Sturm,
Deputy Director, Commercial Regulations and Standards,
U.S. Coast Guard.

[FR Doc. 2015-26285 Filed: 10/15/2015 08:45 am; Publication Date: 10/16/2015]

⁵ Total Nitrogen means the sum of total Kjeldahl nitrogen (organic and ammoniacal nitrogen) nitrate-nitrogen and nitrite-nitrogen.